

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/CA2004/000460

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/86 C07K14/145 C12N7/04 A61K39/205

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, MEDLINE, EMBASE, WPI Data, PAJ, Sequence Search

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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X	PETERSEN J M ET AL: "The matrix protein of vesicular stomatitis virus inhibits nucleocytoplasmic transport when it is in the nucleus and associated with nuclear pore complexes." MOLECULAR AND CELLULAR BIOLOGY. UNITED STATES NOV 2000, vol. 20, no. 22, November 2000 (2000-11), pages 8590-8601, XP002287307 ISSN: 0270-7306 page 8592, left-hand column, last paragraph - page 8592, right-hand column, paragraph 2 page 8595, left-hand column, last paragraph - page 8597, left-hand column, paragraph 2	1-4, 7-10,14, 20
Y		11-13, 15-19

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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*Z\* document member of the same patent family

Date of the actual completion of the international search

15 July 2004

Date of mailing of the international search report

26/07/2004

Name and mailing address of the ISA

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>DESFORGES MARC ET AL: "Different host-cell shutoff strategies related to the matrix protein lead to persistence of vesicular stomatitis virus mutants on fibroblast cells"</p> <p>VIRUS RESEARCH, vol. 76, no. 1, July 2001 (2001-07), pages 87-102, XP002287308</p> <p>ISSN: 0168-1702</p> <p>page 98, left-hand column, paragraph 2; table 1</p>	1-20
Y	<p>VON KOBBE C ET AL: "Vesicular stomatitis virus matrix protein inhibits host cell gene expression by targeting the nucleoporin Nup98."</p> <p>MOLECULAR CELL. UNITED STATES NOV 2000, vol. 6, no. 5, November 2000 (2000-11), pages 1243-1252, XP001117686</p> <p>ISSN: 1097-2765</p> <p>page 1244, left-hand column, paragraph 1 - page 1245, right-hand column</p> <p>page 1248, right-hand column, paragraph 3 - page 1249, left-hand column, paragraph 1</p>	1-3,7-20
Y	<p>DESFORGES MARC ET AL: "Matrix protein mutations contribute to inefficient induction of apoptosis leading to persistent infection of human neural cells by vesicular stomatitis virus."</p> <p>VIROLOGY. UNITED STATES 30 MAR 2002, vol. 295, no. 1, 30 March 2002 (2002-03-30), pages 63-73, XP004467144</p> <p>ISSN: 0042-6822</p> <p>page 67, left-hand column, last paragraph</p> <p>page 70, right-hand column, paragraph 2</p>	1-5,7-20
Y	<p>JAYAKAR HIMANGI R ET AL: "Identification of two additional translation products from the matrix (M) gene that contribute to vesicular stomatitis virus cytopathology."</p> <p>JOURNAL OF VIROLOGY. UNITED STATES AUG 2002, vol. 76, no. 16, August 2002 (2002-08), pages 8011-8018, XP002976937</p> <p>ISSN: 0022-538X</p> <p>page 8015, right-hand column</p> <p>page 8017, right-hand column, last paragraph</p>	1-20

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>STOJDL D F ET AL: "Exploiting tumor-specific defects in the interferon pathway with a previously unknown oncolytic virus." NATURE MEDICINE. UNITED STATES JUL 2000, vol. 6, no. 7, July 2000 (2000-07), pages 821-825, XP002162486 ISSN: 1078-8956</p>	
A	<p>BALACHANDRAN S ET AL: "Oncolytic activity of vesicular stomatitis virus is effective against tumors exhibiting aberrant p53, Ras, or myc function and involves the induction of apoptosis." JOURNAL OF VIROLOGY. UNITED STATES APR 2001, vol. 75, no. 7, April 2001 (2001-04), pages 3474-3479, XP002287310 ISSN: 0022-538X</p>	
A	<p>PETERSEN J M ET AL: "Multiple vesiculoviral matrix proteins inhibit both nuclear export and import." PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA. UNITED STATES 17 JUL 2001, vol. 98, no. 15, 17 July 2001 (2001-07-17), pages 8590-8595, XP002287311 ISSN: 0027-8424</p>	
P,X	<p>STOJDL DAVID F ET AL: "VSV strains with defects in their ability to shutdown innate immunity are potent systemic anti-cancer agents." CANCER CELL, vol. 4, no. 4, October 2003 (2003-10), pages 263-275, XP002287312 ISSN: 1535-6108 (ISSN print) page 263, right-hand column, last paragraph - page 268, right-hand column, paragraph 2 page 269, left-hand column, paragraph 2 - page 269, right-hand column, paragraph 2</p>	1-20
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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	<p>AHMED MARYAM ET AL: "Ability of the matrix protein of vesicular stomatitis virus to suppress beta interferon gene expression is genetically correlated with the inhibition of host RNA and protein synthesis."</p> <p>JOURNAL OF VIROLOGY, vol. 77, no. 8, April 2003 (2003-04), pages 4646-4657, XP002287313 ISSN: 0022-538X (ISSN print) page 4648, right-hand column, last paragraph - page 4649, right-hand column page 4650, right-hand column, last paragraph - page 4653, right-hand column</p>	1-20
P,X	<p>WO 2004/022716 A (JAYAKAR HIMANGI R ;ROBISON CLINTON S (US); UNIV TENNESSEE RES FOUN) 18 March 2004 (2004-03-18) claims 1-44,92-112</p>	1-4,7-20

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### Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:  
  
Although claims 17-19 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound.
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

### Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

#### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2004022716 A	18-03-2004	WO 2004022716 A2	18-03-2004